

Abstract of the Disclosure

A closed cell trench power MOSFET has a trench (54) running in first and second perpendicular directions through a body region (48) and extending into an epitaxial region (46). The trenches meet to form intersections (16). A polysilicon layer (58) is deposited in the trench. A photoresist pattern (60) is formed over the intersections to inhibit removal of the conductive material from the trench in and around the intersection areas. The process of inhibiting removal of the conductive material over the intersection areas of the trench prevents formation of a depression in the polysilicon in and around the intersection which would increase resistivity in the gate region. The goal of preventing formation of depressions in the polysilicon can also be achieved by making the polysilicon thicker on the intersections prior to the etching process and by making the trenches narrower in and around the intersections.